



PATENT APPLICATION 2823  
Do. No. 4591-160

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of: Hoe-Seong HA, et al.

Serial No. 09/765,543

Examiner: Estrade, Michelle

Filed: January 19, 2001

Group Art Unit: 2823

For: BORDERLESS CONTACT STRUCTUE AND METHOD OF FORMING  
THE SAME

BOX NON FEE AMENDMENT

Assistant Commissioner for Patents,  
Washington, D.C. 20231

Responsive to the Office Action dated June 19, 2002, enclosed is an amendment in the above-identified application.

The fee has been calculated as shown below.

<u>CLAIMS AS AMENDED</u>					
For:	Number After Amendment	Previous Number	Extra	Rate	Additional Fee
Total Claims	10	17	0	x \$18 =	\$0
Independent Claims	1	2	0	x \$84 =	\$0
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					

\*greater of twenty (20) or number for which fee has been paid

\*\*greater of three (3) or number for which fee has been paid

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



20575  
PATENT TRADEMARK OFFICE

Alan T. McCollom  
Reg. No. 28,881

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ON 9-18-02

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PATENT APPLICATION  
Do. No. 4591-160

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Jewell  
9/29/02

In re application of: Hoe-Seong HA, et al.

Serial No. 09/765,543

Examiner: Estrade, Michelle

Filed: January 19, 2001

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BOX NON FEE AMENDMENT  
Assistant Commissioner for Patents  
Washington, D.C. 20231

RESPONSE TO OFFICE ACTION

Responsive to the Office Action, dated June 19, 2002, please amend the application as follows.

IN THE CLAIMS

1. A borderless contact structure comprising:
  - a semiconductor substrate having a top surface;
  - a device isolation region formed in a predetermined region of the semiconductor substrate, the device isolation region having a protrusion that is higher in level than the top surface of the semiconductor substrate;
  - an impurity diffusion region formed in an active region surrounded by the device isolation region;
  - an etch stop spacer formed overlying a sidewall of the protrusion;
  - an etch stop layer and an interlayer insulating layer sequentially formed over the resultant structure; and
  - a contact hole opening the interlayer insulating layer and the etch stop layer, the contact hole exposing at least a portion of the impurity diffusion region.
  
2. The borderless contact structure according to claim 1, wherein the etch stop spacer is partially etched.

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